Discussion of Rautenstein's paper on the
"Use of Actinophages for the Classification of
Actinomycetales

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I should like to present some considerations as to the use of actinophages for identification of actinomycetes. I think the proposal of Prof. Rautenstein to use widely actinophages in systematics should be supported. With the help of specific phages, including lysis of a definite actinomycete species, it is possible to identify cultures rather easily.

For example, we used successfully actinophage No. 9 lysing representatives of Actinomyces levoris for making more exact the systematic position of a number of cultures from ATCC (A. albus 3351, A. candidus 4878, A. sulfureus 3007, A. intermedius 3329), NCIB (A. (Str.) griseus 8891) and the Moscow Institute of New Antibiotics (A. globisporus var. caucasicus). These cultures were lysed by phage No. 9, and further studies on their properties showed that all of them are very close with respect to their taxonomic features and produce an antibiotic of the candididin type and do not differ from A. levoris (Kuznetsov 1960, 1962). In addition, we used effectively, with an economy of labour and time, actinophage No. 9 in a directed search for organisms producing heptaenic antibiotics of the candididin type among freshly isolated actinomycetes (Kuznetsov 1960, 1960a).

However, it should be noted that sensitivity or resistance of actinomycetes to a set of specific phages should be considered as one of the properties of common taxonomic features.

The use of actinophages for systematic studies requires, of course, some improvement. Thus, cases are known where a specific phage lyses different strains of the same species on liquid and solid media or only on liquid media. We observed the similar phenomenon with respect to actinophage KVN producing a specific effect on novobiocin-producing organisms. This actinophage was isolated by Kuznetsov (1965).

Nevertheless, it is desirable to use actinophages more widely for systematic purposes.

Unfortunately, we have only a very limited set of specific phages. Therefore, the proposal of Prof. Rautenstein to create a collection of specific actinophages should be supported.

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